

PATENT
Serial No. 10/520,872
Amendment in Reply to Office Action mailed on February 4, 2008

IN THE TITLE

Please delete the current title in its entirety and substitute
therefore the following new title: --AUDIO CODING/DECODING WITH
SPATIAL PARAMETERS AND NON-UNIFORM SEGMENTATION FOR TRANSIENTS--.

IN THE SPECIFICATION

Please amend the specification as follows:

Replace the paragraph on page 1, between lines 22-27 of the specification with the following:

In the case of intensity stereo coding, for a certain frequency region, only one signal $I=(L+R)/2$ is encoded along with intensity information for the L and R signal. At the decoder side this signal I is used for both the L and R signal after scaling it with the corresponding intensity information. In this technique, high frequencies (typically above 5 kHz) are represented by a single audio signal (i.e., mono), combined with time-varying and frequency-dependent ~~scale-factors~~ scale-factors.

Replace the paragraph on page 3, between lines 11-13 of the specification with the following:

According to the present invention there is provided a method of coding an audio signal ~~according to claim 1~~ and a method of decoding a bitstream ~~according to claim 13~~.

Replace the paragraph spanning pages 6-7, between page 6, line 30, and page 7, line 5 of the specification with the following:

It is known from psychoacoustic research that the sensitivity to changes in the IID ILD depends on the ILD itself. If the ILD is expressed in dB, deviations of approximately 1 dB from a reference of 0 dB are detectable, while changes in the order of 3 dB are required if the reference level difference amounts 20 dB. Therefore, quantization errors can be larger if the signals of the left and right channels have a larger level difference. For example, this can be applied by first measuring the level difference between the channels, followed by a non-linear (compressive) transformation of the obtained level difference and subsequently a linear quantization process, or by using a lookup table for the available ILD values which have a nonlinear distribution. In the preferred embodiment, ILDs (in dB) are quantized to the closest value out of the following set I:

Replace the paragraph on page 8, between lines 15-19 of the specification with the following:

A second possibility is to use quantization steps for the correlation that depend on the measured ILD of the same subband: for large ILDs (i.e., one channel is dominant in terms of energy), the quantization errors in the correlation become larger. An extreme example of this principle would be to not transmit correlation values for a certain subband at all if the absolute value of the IID-ILD for that subband is beyond a certain threshold.

Replace the paragraph on page 9, between lines 31-33 of the specification with the following:

In the preferred embodiment, however, a sinusoidal coder 30 of the type described in ~~WO01/69593-A1~~ is used to generate the monaural layer 40. The coder 30 comprises a transient coder 11, a sinusoidal coder 13 and a noise coder 15.

Replace the paragraph on page 13, between lines 7-12 of the specification with the following:

Spatial parameters 14' extracted by the de-multiplexer 62 are then applied by a post-processing module 66 to the sum signal 12'

to generate left and right output signals. The post-processing module of the preferred embodiment also reads the monaural layer 14'-40' information to locate the positions of transients in this signal. (Alternatively, the synthesizer 64 could provide such an indication to the post-processor; however, this would require some slight modification of the otherwise conventional synthesizer 64.)